IN THE CLAIMS:

1. (Allowed) A bi-directional clutch assembly comprising:

an inner race, an outer race and an engagement mechanism supported therebetween, said engagement mechanism including a first set of pawls and a second set of pawls operatively supported between said inner and outer races;

at least one actuating cam disposed adjacent said inner and outer races and including a flat disc portion having plurality of disengagement portions spaced about the outer periphery of said flat disc portion and a plurality of engagement portions, said engagement and disengagement portions cooperating with said first and second pawls to selectively disengage said first and second pawls to provide freewheeling relative rotation between said inner and outer races; to selectively actuate at least one pawl of said first set of pawls so that torque is translated in a first rotational direction but allowing freewheeling relative rotation between said inner and outer races in a second rotational direction that is opposite to said first rotational direction; to selectively actuate at least one pawl of said second set of pawls so that torque is translated in said second rotational direction opposite to said first rotational direction but allowing freewheeling relative rotation in said first rotational direction; and to selectively actuate at least one pawl of said first and second sets of pawls so that torque is translated between said inner and outer races in both of said first and second rotational directions.

2. (Cancelled)

3. (Allowed) A bi-direction clutch assembly as set forth in claim 1 wherein said plurality of disengagement portions includes a first set of disengaging portions that cooperate with said first set of pawls to move said first set of pawls out of engagement between said inner and outer races.

4. (Allowed) A bi-directional clutch assembly as set forth in claim 3 wherein said plurality of disengagement portions includes a second set of disengagement portions that cooperate with said second set of pawls to move said second set of pawls out of engagement between said inner and outer races.

5. (Allowed) A bi-directional clutch assembly as set forth in claim 1 wherein said actuating cam includes a plurality of engagement portions spaced about the outer periphery of said flat disc portion and operable to move said pawls into engagement between said inner and outer races.

6. (Allowed) A bi-directional clutch assembly whereas set forth in claim 5 wherein said plurality of engagement portions include a first set of sloping portions that cooperate with said first set of pawls to move at least one of the pawls of said first set of pawls into an engaged position so that torque is translated in said first rotational direction.

7. (Allowed) A bi-directional clutch assembly whereas set forth in claim 6 wherein said plurality of engagement portions includes a second set of sloping portions that cooperate with said second set of pawls to move at least one of the pawls of said second set of pawls into an engaged position so that torque is translated in said second rotational direction.

8. (Allowed) A bi-directional clutch assembly as set forth in claim 1 wherein said actuating cam further includes a plurality of outer rotational guides formed on said outer periphery of said flat disk portion and adapted to engage the inner radius of said outer race to provide concentric stability of said actuating cam relative to said outer race.

9. (Allowed) A bi-directional clutch assembly as set forth in claim 1 wherein said assembly includes a pair of actuating cams, each of said pair of actuating cams associated with one of said first and second sets of pawls, each one of said pair of actuating cams including a flat disc portion having a plurality of disengagement portions spaced about the outer periphery of said flat disc portion and operable to move said pawls out of engagement between said inner and outer races and a plurality of engagement portions spaced about the outer periphery of said flat disc portion and operable to move said pawls into engagement between said inner and outer races.

10. (Allowed) A bi-directional clutch assembly as set forth in claim 9 wherein said pair of actuating cams are supported for incremental, coaxial rotational movement on opposite sides of said inner and outer races.

11. (Allowed) A bi-directional clutch assembly as set forth in claim 9 wherein each of said disengagement portions are formed on said periphery of said flat disc portion of said actuating cam adjacent to an engagement portion.

12. (Allowed) A bi-directional clutch assembly as set forth in claim 1 wherein said engagement mechanism includes a plurality of pockets formed on the inner circumference of said outer race and a plurality of teeth formed on the outer circumference of said inner race.

13. (Allowed) A bi-directional clutch assembly as set forth in claim 12 wherein said plurality of pockets includes first and second sets of pockets that correspond to said first and second set of pawls and wherein each pocket in said first set is located adjacent to a pocket from said second set and each pocket in said first set is oriented in an opposite direction relative to an adjacent pocket of said second set about the inner circumference of said outer race.

14. (Amended After Notice of Allowance) A bi-directional clutch assembly as set forth in claim 13 wherein each pawl of said first and second sets of pawls is moveably supported in a corresponding one of said first and second set of pockets such that each pawl of said first set is adjacent to a pawl from said second set of pawls and such that each pawl in **[[**set**]]** <u>said</u> first set is oriented in an opposite direction relative to an adjacent pawl from said second set of pawls and wherein said first set of pawls acts to translate torque between said inner and outer races in said first rotational direction when at least one pawl from said first set of pawls is disposed in its engaged position and said second set of pawls act to translate torque between said inner and outer races in said second rotational direction that is opposite to said first rotational direction when at least one **[[**of**]]** pawl of said first set of pawls is disposed in its engaged position.

15. (Allowed) A bi-directional clutch assembly comprising:

an inner race, an outer race and an engagement mechanism supported therebetween, said engagement mechanism including a first set of pawls and a second set of pawls operatively supported between said inner and outer races;

a pair of actuating cams supported for incremental, coaxial rotational movement relative to said inner and outer races, each one of said pair of actuating cams associated with one of said first and second sets of pawls and including a plurality of disengagement portions and a plurality of engagement portions, said engagement and disengagement portions cooperating with said first and second pawls to selectively disengage said first and second pawls to provide freewheeling relative rotation between said inner and outer races; to selectively actuate at least one pawl of said first set of pawls so that torque is translated in a first rotational direction but allowing freewheeling relative rotation between said inner and outer races in a second rotational direction that is opposite to said first rotational direction; to selectively actuate at least one pawl of said second set of pawls so that torque is translated in said second rotational direction opposite to said first rotational direction but allowing freewheeling relative rotation in said first rotational direction; and to selectively actuate at least one pawl of said first and second sets of pawls so that torque is translated between said inner and outer races in both of said first and second rotational directions.

16. (Allowed) A bi-directional clutch assembly as set forth in claim 15 wherein each pair of said actuating cams includes a flat disc portion having a plurality of disengagement portions spaced about the outer periphery of said flat disc portion and operable to move said pawls out of engagement between said inner and outer races.

17. (Allowed) A bi-directional clutch assembly as set forth in claim 16 wherein each of said disengagement portions are formed on said periphery of said flat disc portion of its association actuating cam adjacent to an engagement portion.

18. (Allowed) An automotive transmission assembly having at least one shaft and at least one gear set operatively coupled to said shaft to provide low and reverse gear ratios, said transmission assembly comprising:

a transmission casing for supporting the shaft and the gear set of said transmission assembly;

said gear set including a sun gear operatively coupled to a source of torque in said transmission assembly, a ring gear mounted for rotation about said sun gear and a plurality of pinion gears supported by a carrier for rotation about said sun gear and between said ring gear and said sun gear, said carrier operatively coupled to said shaft;

a bi-directional clutch assembly having an inner race operatively coupled to said ring gear of said gear set, an outer race operatively coupled to said transmission casing and an engagement mechanism supported between said inner and outer races, said engagement mechanism including a first set of pawls and a second set of pawls operatively supported between said inner and outer races;

at least one actuating cam disposed adjacent said inner and outer races and including a plurality of disengagement portions and a plurality of engagement portions, said engagement and disengagement portions cooperating with said first and second pawls to selectively disengage said first and second pawls to provide freewheeling relative rotation between said inner and outer races; to selectively actuate at least one pawl of said first set of pawls so that torque is translated in a first rotational direction when said transmission assembly is in low gear but allowing freewheeling relative rotation between said inner and outer races in a second rotational direction that is opposite to

said first rotational direction when said transmission assembly is in any higher gear; to selectively actuate at least one pawl of said second set of pawls so that torque is translated in said second rotational direction opposite to said first rotational direction when said transmission assembly is in reverse gear but allowing freewheeling relative rotation in said first rotational direction when said transmission assembly is in any gear greater than first; and to selectively actuate at least one pawl of said first and second sets of pawls so that torque is translated between said inner and outer races in both of said first and second rotational directions to provide engine braking.

19. (Allowed) A bi-directional clutch assembly as set forth in claim 18 wherein said assembly includes a pair of actuating cams, each of said pair of actuating cams associated with one of said first and second sets of pawls, each one of said pair of actuating cams including a flat disc portion having a plurality of disengagement portions spaced about the outer periphery of said flat disc portion and operable to move said pawls out of engagement between said inner and outer races and a plurality of engagement portions spaced about the outer periphery of said flat disc portion and operable to move said pawls into engagement between said inner and outer races.

20. (Allowed) A bi-directional clutch assembly as set forth in claim 19 wherein said pair of actuating cams are supported for incremental, coaxial rotational movement on opposite sides of said inner and outer races.